

NOVEMBER—DECEMBER

57

V. 3 - No. 4

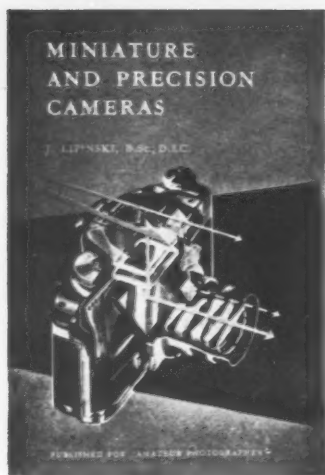
NCRS

THE *Camera Craftsman*

PUBLISHED BY: NATIONAL CAMERA REPAIR SCHOOL

ENGLEWOOD COLORADO





MINIATURE AND PRECISION CAMERAS

by J. LIPINSKY

A detailed and thorough study from an engineering point of view of the mechanism and problems involved in the design of modern precision cameras. A technical work for those whose work requires unconventional uses of their cameras. Of particular interest to manufacturers, as well as professional photographers, camera repair men, etc. 300 pgs. 8 1/2 x 5 1/2". 344 illustrations.

\$7.95



MORRIS 6-2 TAP & DIE SET
SIZE: 6-40 6-48 1-75 2-86

Here is a set of precision tools that any hobbyist or tool maker would be proud to own. Set is put up in a fabric lined metal case with spring hinge cover. Tools are held in a round black base. Taps are contained in the hollow handle of the holder.

CONTENTS: 4 Taps, 4 Dies, 1 6-2 Tap & Die Holder,
4 Bushings, 1 Set Screw Wrench.
Price Complete, \$15.50

THE CAMERA CRAFTSMAN

VOL. 3 Published for students, NOVEMBER
No. 4 graduates and friends of the DECEMBER
National Camera Repair School 1957

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THIS MONTH'S COVER:

The cover of this issue expresses the wish for a joyous Holiday and a prosperous New Year from the staff of NCRS.

No Sept-Oct. issue of the Craftsman was published.

— STAFF —

CLAIR H. SCHMITT	EDITOR
THOMAS SHEVLIN	ART DIRECTOR
FRANK H. CURTIS	ADVERTISING MANAGER
GLENN M. WALTERS	PRODUCTION MANAGER

The Director's Viewpoint

By SAMUEL L. LOVE



As recently as 50 years ago, the craftsmen in almost every field regarded their skills as the sort of prized possession that should be guarded with miserly fervor. Having acquired the "secrets" of his trade, the idea of passing them on to others, indiscriminately, was regarded as a foolish way to place one's earning power in jeopardy.

Contemporary trade unions operated on the same premise as the original "guilds" of centuries ago. One of the most important functions of the group was to harbor the cherished secrets of the craft.

Then began a rapid surge in the growth of American Industrialism, with the need for more and more skilled craftsmen. Gradually, over a period of many years, a major change has taken place in most skilled crafts. As much attention has been placed on the problems of disseminating information as was earlier placed on keeping secrets. Today, most people recognize that they would indeed be old before they wrested all of the secrets of their craft from experience. Progressive men and women have always searched eagerly for new ways to learn more from the experiences of others. Having graduated from a school or emerged from an apprenticeship or otherwise acquired the basic knowledge of a trade or profession, actual experience must still be coupled with more or less formal learning in order to be most effective.

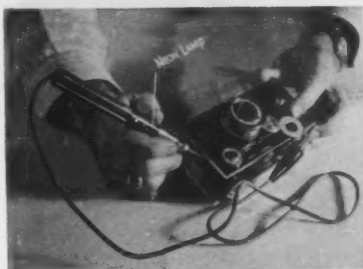
Whether it is a medical association, an engineering society, a trade union, a management club, or a craftsman's organization, today you find more and more groups of individuals having a common interest gathering together in order to share ideas, plot future progress, and provide collective benefits to each other.

No one questions the value to the individuals who thus share their experiences for mutual benefit. Often it is difficult, especially in a budding craft, to establish such a useful organization. Since the primary purpose of any such organization is to share experiences, and the sole purpose of a school is to spread knowledge and experience, the professional or trade society often is a natural successor to schooling.

The important feature of any association is that it be founded on the idea of sharing information and not hoarding it. In this respect, the National (Con't Page 4)

CIRCUITRACER

A small dependable rugged tester



An easy to use, inexpensive electric circuit tester especially adaptable for camera repair work. It is capable of locating and identifying dead or live circuits of any voltage, fast.

- Checks electric photo-flash circuits
- Analyzes breaks and high resistance joints
- Tests flash wiring for breaks or bad connections

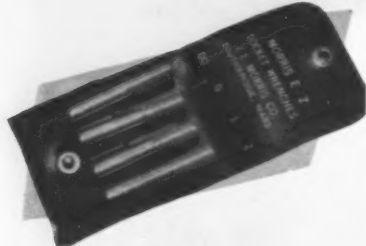
Put this handy unit into your carryout case or pocket for quick tests anywhere. Tested and approved for camera repair by "National ServiShops"

\$4.50

ServiShops Product

National Camera Repair School
Englewood, Colo., U.S.A.

SPECIAL TOOLS FOR YOUR SHOP



3-2 SOCKET WRENCHES

An easy-to-use variety of light weight aluminum for Metric Hex Screws and Nuts. Design permits reaching hard-to-get-at places.

32255-00, 6, 1, 1, each \$.75
Set of 4 in Plastic Case 3.50



STRAIGHT DRILL BITS

An specialists in small tools, we offer the hobbyist and intermediate amateur quick delivery on finest quality twist drills in small, usually hard-to-get sizes. Stock includes all numbered sizes from 3/64 to 5/16. Other small drills in numbered, fluted and millimeter sizes can be supplied on short notice. Carbon steel drills are priced below. High speed steel quoted on request.

Nos. 37 to 60, & 1.25 mm, each \$.35
Nos. 61 to 70, each .35
Nos. 71 to 80, each .45
Set Nos. 61-80 in Metal Case .65



Director's Viewpoint (con't)

Camera Service Men, established as an organization for Camera Craftsmen and open to all students and graduates of NCRS welcomes any camera repairman who has a desire to share ideas with other members of his profession.

ROCHESTER PHOTO SALON SCHEDULES 22nd SHOW

Photographers in over 40 countries plan to submit pictures for the 22nd Rochester International Salon of Photography, Inc., the world's largest urban photographic exhibition, opening March 1, 1958, at the Memorial Art Gallery in Rochester, New York, USA.

Closing date for entries in the Salon is February 9, 1958. Data and entry forms are available from:

Mr. Norton Brownell
298 Lettington Drive
Rochester 11, N. Y., USA.

Acceptances in the Rochester show will be on exhibit through March 30, 1958. The salon has five sections: PICTORIAL COLOR SLIDES, PICTORIAL PRINTS, NATURE PRINTS, NATURE COLOR SLIDES and STEREO COLOR SLIDES.

The 22nd Rochester Salon will award 18 medals. Fifteen Rochester Medals in bronze will go to the best three photographs in each of the five sections. Two silver Photographic Society of America Nature Division Medals will be given, as well as one PSA Stereo Division Medal for the stereo slide showing most originality in application of stereo techniques.

If either print section is entered singly, the entry fee is \$2.00. If both print sections are entered the entry fee is \$3.00. The fee for each slide section is \$1.00.

Where currency restrictions make dollar remittance impossible, ten International Reply Coupons should be forwarded for every dollar of entry fee.

The 22nd Rochester International Salon of Photography will be conducted according to the recommended practices of the Photographic Society of America.

The Salon aims to advance photography as a medium of artistic expression. Exhibits in the Salon illustrate new practices and contemporary techniques of photographers throughout the world.

Reports FROM THE CRAFTSMEN

This is one for the book (Camera Craftsman) and maybe someone will want to top mine, or offer lots of criticism. Nevertheless, here goes:

One of our local Camera and Pawn Shops had the misfortune of a fire which made it necessary for most of the cameras to have a complete checkup before they could be sold to a customer. This definitely was an advantage for me. Not that I appreciate anyone having a fire, but that I was in a position to be of service. I immediately contacted the managers and it meant a lot of work thrown into my lap. Or maybe to put it correctly -- about four bushels of cameras at once (130 cameras in all) which kept me busy for the past month.

Also the Pawn and Camera Shop made a deal with me for about \$2,000 worth of cameras which needed to be serviced. I have so many cameras now that I will have to build more shelves to take care of them until they are all ready for market again. I do not have to rush anything but can spend as much time with each camera as necessary and believe me it will be a good education in camera repairing by the time I am finished.

Earl F. Donaldson
Corpus Christi, Texas

Since I sent in my last lesson quiz I have moved my residence and shop. This move has kept me very busy this summer. First I had a lot of work to get the new place ready to move into and then get the old one ready to rent out. All of this extra work along with a very good amount of camera and projector repairs has not left me with much time to devote to my lesson.

I have been appointed by Geiss-America to operate a Gauthier Shutter Service Station, and in the past two weeks I have had six Prontor SV and SVS shutters to go thru and clean.

Howard B. Myers
Tucson, Arizona

Considering our most recent start in this area where there is a lot of competition business is good. Not getting rich yet but I am getting started.

You might push the flexible shaft motor to all students for it is something I use everyday and I'm glad I have it.

My present headache is a --- projector which loses its lower loop. Hope I can work it out for the (Con't Page 8)

New Service Tool Kit

\$15.50

LOCK
Nickel plated
snap type locks



LIFT-OUT TRAY

Will fit in either end of top drawer. 16 compartments, each 1-12/16 x 1-12/16 x 7/8, provide filing space for small items.

DRAWER SLIDE
Strong compound drawer slide with positive stop and patented spring release.



Combining all of the convenience of a tool or die makers chest plus ease in carrying, number 2020 presents a new concept in hand carried tool boxes. The drawer arrangement permits use in restricted area where space does not allow the opening of more conventional type boxes. Especially useful for the service mechanic. Suitable for the home workshop. Finished in dark brown baked enamel with contrasting tan on drawers.

STYLE NO.	DIMENSIONS		
	L	W	H
2020	20	8 1/4	6 1/4
Top Drawer	18 1/2	8	1-15/16
Lower Drawer	18 1/2	8	2-13/16

NET WEIGHT	SHIPPING WEIGHT ONE TO CARTON
15 lbs.	17 lbs.

Top drawer has 12 permanent compartments
2 1/2 x 2 x 7/8 plus 2 removable partitions.

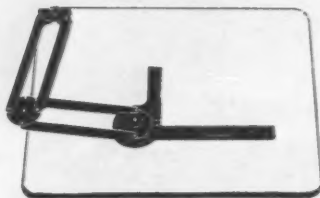
ServiShops Product

National Camera Repair School
Englewood, Colo. U.S.A.

draftette

a portable drafting instrument
made of sturdy anodized aluminum
designed for: **sketching**

drawing
drafting, etc.



PRICE
ONLY **\$4.95**

instrument only...

Complete with 10x12" drawing board \$5.95

Complete with 11x17" drawing board \$6.50

check these features ✓

- 1 **QUALITY** — All aluminum construction — available in jet black — anodized with glossing, white-lined numbers and letters.
- 2 **ECONOMY** — Costs much less than other drafting machines — you can afford one for home, one for office, shop, school or field.
- 3 **PRECISION** — All scales machine calibrated to $\pm .0005$ of an inch — scientifically engineered to retain its original accuracy with 180 degree protractor.
- 4 **RUGGEDNESS** — Not a gadget — draftette is a sturdy constructed instrument that will withstand hard normal use indefinitely.
- 5 **COMPACTNESS** — Draftette (without board) folds like a jackknife ... slips into drawer, pocket or briefcase. Draftette instrument complete with Draftette board also fits into briefcase, ready for use anytime, anywhere.

A Servis Shops Product

National Camera Repair School
Englewood, Colo., U.S.A.

HIGH-VACUUM COATING

Charles Chopnick
Pacific-Universal Products Corp.

Low reflectance coating of the surfaces of lenses, whether glass, plastic or crystal, reduces reflection to a minimum and thus increases useful light transmitted to the image. However, elimination of stray light is often more important than increased light transmission. This is because light traversing an uncoated optical system suffers a reflection loss of from 4 to 7 per cent for each surface. The reflected light which is "bent" and "bounced" among successive lens elements often produces "flare", dims contrasts and results in ghosts and shadows.

In photography, whether amateur or professional, home movie fan or cinematographer, this is very damaging to clarity, contrast and color fidelity. Coated lenses give their user a freedom of subject selection and lighting with less concern about back-lighting, highlights and "kick" from flash bulbs. This, plus added speed from the lens, saves many an otherwise impossible shot. When coated filters are used with coated lenses, they become a part of the optical system as inter-reflections are eliminated and increased light transmission is gained.

Binoculars, telescopes and microscopes are greatly improved by lens coating. Freedom from multiple images and degrading contrasts is obtained and visibility is greatly enhanced. In the Armed Services, this is not only highly important in binoculars but also with fire control instruments, range finders and other devices. Rifle spotting scopes are also improved with lens coating, which free them from flare and masking shadows. The increased light-transmitting and contrast-rendering ability of the coated lens permits shooting or spotting under adverse conditions of visibility, as at dawn or dusk, which would not be possible with uncoated lenses.

Metallographic apparatus and other scientific instruments are now being supplied by the manufacturers with coated lenses. Ophthalmic lenses, when coated, provide better sight and greater comfort. They improve appearance, reduce eye fatigue, eliminate ghost images, make for safer night driving, and enhance visual acuity.

In metallographic equipment using vertical illumination, the light is caused to traverse the objective toward the specimen. Thus it is partly reflected toward the photographic plate by each surface encountered. Through coating, these reflections are so reduced that the plate receives primarily image-forming light and previously masked detail

and contrasts are made apparent. Colorimeters, refractometers, contour projectors, spectrographic instruments and similar units are all greatly improved by lens coating.

Lens coating is essentially the depositing of a very thin hard coating of magnesium fluoride on the surface of the lens. When a camera lens, or binoculars, or other optical part is to be coated by Pacific Universal Products Corporation, it is first disassembled and the lens carefully removed from its mount, if practical.

This is not only a protection to whoever does the coating, but it brings the customer's attention to any shortcomings of his lens. If there is deep tarnish or fine scratches, these are removed when practical, by polishing. This is not done, however, unless it appears that the ultimate performance will be improved. Polishing, when necessary, is performed with precision factory type pitch tools fitted to the curve of the lens.

The lens goes through various cleaning operations depending on the nature of the lens and mount, to remove every trace of film, grease or dirt. It is then carefully placed in a bell shaped jar in which a vacuum is created to remove all the air which might interfere with the depositing of the evaporated magnesium fluoride on the exposed lens surface. This deposit is built up until the color changes to the desired hue, from straw to a deep blue.

The technician watches very closely as the color indicates when the desired thickness has been reached. This thickness (4/1,000,000) is so slight that it is necessary to determine it visually rather than by mechanical means. The coating is accomplished by evaporation of the fluoride at a temperature of about 2400 degrees F. and is actually fused to the surface of the optical part under a vacuum of 1/10,000,000 atmosphere yielding a very durable coating that is highly transparent.

Some automatic vacuum coating equipment use optical methods to measure the thickness of the coating. A collimated beam of light is reflected from the surface of the lens being coated. The reflection is then picked up by photo electric cell and at the actual point of minimum reflection, the vacuum coating process is stopped. This minimizes the human error that occurs in judging the color of the surface being coated.

After processing, the lenses are returned for assembly to the same technician who did the initial dismantling. Thus the responsibility is individualized. The lens or assembled unit together with the performance notes is placed in a dust-proof bag and packed in a suitable box or other container for return shipment.
(Con't Page 8)



MADE FOR STORING SMALL PARTS

You will be delighted with the beauty, durability and compactness of HAZ-BIN STORAGE CABINETS and the way they will save you time, simplify your inventory, save space and enhance the appearance of your shop, factory, home, office, display counter, etc. Contents fully visible, dustproof, and orderly indexed. No other cabinet built has so many desirable features. No other cabinet is so reasonable in price.

All models safely shipped in floating type cartons, fully assembled, and ready-to-use. Price includes complete set of drawer front labels, drawer dividers, and rubber feet. If not completely satisfied, simply return in 10 days without explanation for full refund.

ServShops Product

National Camera Repair School
Englewood, Colo., U.S.A.

Camera Repairman's HANDBOOK



Whether you run a camera repair shop, operate a Photo Supply Store or just like cameras, you will find valuable information in this concise volume. Have everything at your finger tips.

This edition contains a great variety of valuable technical data for all types of cameras and it's equipment, needed by the repairman in his daily operation.

B-75I-1 Paper bound - \$5.95

B-75I-2 Cloth Bound - \$7.50 Bound

- FORMULAE:
- STANDARDS:
- SHOP RECIPES:
- SHOP PRACTICES:
- CONVERSION TABLES:
- PHOTOGRAPHIC DATA:

Compiled and Edited by the NCRS Staff



Vacuum Coating (con't)

Over the past fifteen years, high vacuum coating has been transformed from a laboratory practice into an engineering science. Such work includes the deposition of conducting and insulating films on glass, plastic and ceramics to produce electrical components, special mirrors and many other coatings are produced utilizing the advantages of high vacuum deposits.

The thermosensitive elements of pyrometers can be applied by evaporation to certain surfaces to reduce heat transfer losses and thus reduce temperature errors to almost zero. The techniques of evaporation lend themselves to a production of sensitive elements in a variety of forms ranging from resistance elements of large area to those of thermocouples of microscopic dimensions.

One cannot complete this description of the important uses of coating without some reference to large scale applications, e.g. the aluminizing of cathode ray tube fluorescent screens to improve their light output, the metallizing of capacitor tissue, the aluminizing of automobile head lamp reflectors and decorative, industrial, electrical applications---- especially with the demand for smaller and smaller parts as used in airborne and military services.



Reports (con't) customer.

Dota C. Brown
Encinitas, California

At the present time I have one source of work here, and that is a retail outlet. The volume there had small beginnings, but has picked up to about \$75 per month, and anticipate more once advertising commences.

I have set the "press" here up on a quarterly inspection of their cameras and will keep a service record of each camera. Too, I have been assured another outlet in Minnesota as soon as I "give the word." It would appear that the matter will present excellent opportunities.

R. J. Blesener
Minot, North Dakota

Since my visit to the School last June I have been literally swamped with work, which of course left me little time for study. With the vacationers tucking away their cameras until next year, perhaps I can get back to my studies once again. I still rate your course ace-high and would recommend it to any one.

Paul Ruminsky
Lorain, Ohio

SHOP SHOTS

HERE'S WHERE SERVISHOP CRAFTSMEN LEARN AND EARN
Made a change in your shop lately? Make a quick picture
or two and send them in Share your ideas.



C.S. Koralewski Jr.
Toledo, Ohio

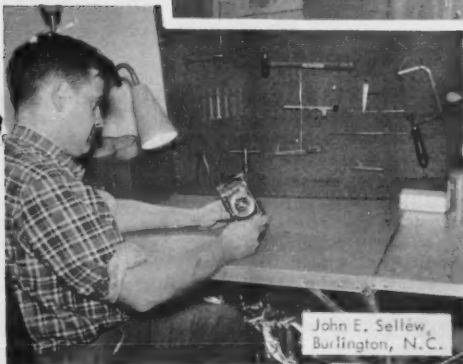
Frank Black
Barberton, Ohio



Paul Rumirsky
Lorain, Ohio



John L. Ellis
Corvallis, Oregon



John E. Sellw
Burlington, N.C.



Ellis Bundy
Detroit, Michigan

If you want to, you can. You can improve your word power. You can make your speech more forceful and convincing. And this skill will be well worth whatever time and trouble you spend on it. Better jobs, increased prestige in both social and business circles, more interesting friends, come to people who can express their ideas clearly and forcefully.

Adding words to your vocabulary is the key. If you learn a new word every day for 20 years, you should have a vocabulary as large as Shakespeare's, the great master of the English language.

Adding words is not difficult. First, it means learning to use the words you already know, but don't know you know. We all have three vocabularies. Your "reading vocabulary" -- the words you understand when you see them on paper -- is the biggest. If you're average, this vocabulary contains somewhere between 25,000 and 30,000 words. Your "writing vocabulary" is much smaller -- perhaps 10,000 words -- because there are many words you understand in print but never think to use when you write. Finally, and in many ways most important, there is your "speaking vocabulary." You must build this up, if you are to be a fluent and provocative speaker. But if you do, when you talk, people will listen! You will express yourself forcefully, explain your ideas with ease, and never be at a loss for words. If, like most people, your thoughts are now the prisoners of a meager speaking vocabulary, now is the time to do something about it. Your effectiveness on your job may depend to a greater extent than you suspect on your ability to express yourself. If you aspire to an executive position or a business of your own, a powerful speaking vocabulary is essential, for a leader of men requires the economy of time, and the respect from others that comes with not hemming and hawing.

What to Do

If you can read and understand all the things you want to read, your reading vocabulary is probably big enough right now. Now the "trick" to improving your spoken vocabulary is to learn to use the words you understand when you read them.

Here's how:

1. Read aloud for 15 minutes every day.

It's a psychological fact that you learn faster if you use more than one of your senses in learning. Reading aloud will let you see and hear the words you never use, but understand.

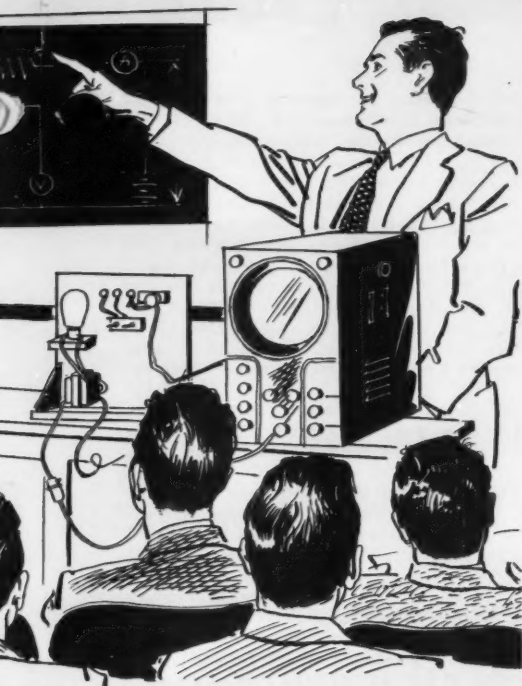
Talk Your Way Success



By reading aloud, we don't just mean mumble. Sing out those words in clear, rich tone. Talk loudly enough for someone at the other end of the room to hear you. But be sure to do this while you're completely alone. Otherwise you'll be self-conscious and unable to concentrate on the words you're using.

2. Get the dictionary habit. One reason you never speak many of the words in your reading vocabulary is that although you really know the meanings of these words, you're not positive you do. Everyone needs a good dic-

ay To



tionary. The definitions should be clear and ample and there should be many examples that show how to use a word in a sentence. Meanings and pronunciations of words change as years go by, and even the best dictionary is not very reliable after five years. Clarence L. Barnhart was a colleague of the late great Edward L. Thorndike in bringing about what Life magazine has called a "revolution" in dictionary meaning. He is today at the head of the Thorndike - Barnhart Dictionary Series, and keeps a permanent staff of research workers

and scholars working to keep the Thorndike-Barnhart dictionaries up-to-date. Whatever dictionary you have, learn to use it to fullest advantage. There are simple rules and helpful hints in the front of most dictionaries to guide you.

Use the Right Word at the Right Time

Using slang isn't a "sin." Sometimes it is the most forceful way to express what you wish to say. But be careful not to use it when you are speaking formally. A "gag" is a "joke", but if you think for a moment you will realize you wouldn't use these words with exactly the same people in all situations. You might say to a close friend, "What's the gag?" But you would probably hesitate, or should, to use this expression with a man whom you are asking for a job. Remember that there are various words for many things, and be careful to use (your dictionary will help you in doing this) the word that is just right for that particular situation.

3. Practice using your "reading vocabulary" words in speaking. Don't always say "walk" when your reading vocabulary includes all the colorful variations such as march, step, tread, pace, plod, trudge, slink, wend, strut, promenade, stride, shuffle. Take the word march, for example. It means "to walk in a stately manner." Use the word, preferably aloud, in five sentences. Now you own that word and you'll find yourself using it easily. It's yours forever.

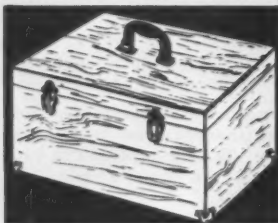
When you've acquired a new word, show it off. Try it on your wife. Use it at the office. Keep using it until you've forgotten it is a new word and you have gone on to other words which you are breaking in. When you've added march to your speaking vocabulary go on to step, tread, pace, and the rest. Next, pick another category of words. Then another. Depending on how fast you work (don't rush) you'll find yourself adding to your vocabulary week after week.

An endless task? Yes. But as you go on, you'll find that you are winning increased attention when you speak. Friends and associates will be quicker to turn around or lift their heads when you call their names. On the job, you'll say what needs saying in a minimum of effort. You'll get your ideas across.

You'll find that you are talking your way to success!

Protect your customers' camera from heat and shock with this sturdy...

CAMERA CARRYING CASE



- Made of rugged 3/8" plywood.
- Hardware is heavy duty.
- Heavy luggage-type handle.
- Corners protected with metal.
- Lined throughout with sponge rubber.
- Has 2 turnbuckle catches.
- Inside dimensions - 18-3/4" long, 10-1/2" wide, 8-3/4" deep.
- Finished in beautiful clear lacquer.

A BARGAIN AT. **\$10.75**

MODEL 00

arbor press

Designed for light production and assembly work, this model has large opening in base for arbor work and is equipped with a slotted tableplate.

Presses up to 1 ton.



Price f.o.b. Denver **\$26.00**

EXPERT CAMERA SERVICE

This colorful sign will tell your customers that you want their camera repair work. One sign is FREE; 25¢ in cash or stamps for handling and postage. This sign is done in eye-catching yellow, blue and black on a white background. Its size is 11 by 14 inches.

3 signs....\$3.00 - 5 signs....\$4.00 - 10 signs....\$6.00 each with order please. Postage prepaid. No handling charge for your free sign if you order extra.

SERVICE

THE CAMERA CRAFTSMAN



*Yours Truly
Delphine*

Hi there, Students --

It looks like you may be hearing from me for awhile in the Camera Craftsman. If NCRS starts receiving cancellations to the magazine, I'll know why!

As you probably know, I'm the little girl who tries to help you out on some of your questions and most of all, your special requests. Just write to me and really give me heck if things aren't going just right with you from Student Service. As most of you know, I can make Boo-Boo's about as fast as you can say Jack Sprat, and I want to straighten them out just as badly as you want me to. OK? OK, Gee, I'm sure glad we solved that problem. Please - just bear with me cause I really do have good intentions. Thanx.

You are all doing very well in following the instructions given in your "Student Guide." By the way, if any of you have not received this little booklet, or if any of you may have misplaced it, please let me know and I will be happy to send you one. Seeing as how this is a correspondence course, mail at times can be very confusing unless it is carried through in the proper way. Please try not to forget to put your student # on all correspondence mailed to the School. By doing this you will receive much faster service. Otherwise a letter from you with a request or a question may become misplaced or filed incorrectly before being taken care of properly. In such cases as this, if you do not hear from us within a few days, just drop another line, and chew us out, and patiently await a very quick reply. What makes this whole matter interesting is that we are no different than you. It just so happens that we have to be put in line at times just like you students. Ha!

If I may, I would like to take a minute to gossip a little about some NCRS students.

Mr. Joseph Poley of Aldan, Penna. and his wife were in an auto accident a couple of months ago and we want to wish them complete and rapid recovery. How is the finger by now, Mr. Poley? Hope your wife is feeling fine now too.

Also, Mr. Bill McHenry of Bethesda, Maryland and his wife were involved in a very serious auto accident in September, which ended their vacation in Florida. They were both very seriously injured

Con't Page 16)

Our Students Speak



Received my new "Kennedy" tool box today. Terrific - just what I've been looking for. And the price was right.

Robert Sieracki
Meridan, Conn.

I was tickled pink when I got the lesson on the Argus C-3. I used one for 6 years. There are a lot in use and it seems like a simple camera to work on. I have my hole locating jig made already for the gear train in it.

Charley Schickel
Lancaster, Pa.

I don't believe I have done anything in repair work, so far, that has given me as much of a thrill and intense interest as the complete study of synchronization. All phases of this subject are unique in operation. It is, in my estimation, one of the most important segments of shutter understanding.

The use of the tester shipped me completes, in my mind, the understanding of the cycle of operation. The shutter, even after reading and re-reading the text, remained somewhat a mystery as to exactly what the blades were doing. Only through the electronic tester does this completely clear up.

Chester Crumrine
South Bend, Indiana

I have enjoyed the work on these shutters. What once scared me is beginning to take on a less complex look.

S. L. Peck
Kansas City, Kansas

I find the lessons to be well written. Anyone can follow the instructions and do a good job removing and assembling the shutters by following your instructions. Your method of study on this work is wonderful, the making of the cycle-of-operation (Con't Page 14)

Nat Line:
Flexi-Clamp

WRENCHES



T 751-12P **\$3.50 ea.**

THESE WRENCHES are very effective tools for removing Lens and Retaining Rings that do not have built in Spanner Slots. You will not mar fine finishes or damage delicate lens mounts when you have a set of these wrenches in your kit. Available for any size diameter job. SIZES IN STOCK to fit:
EASTMAN KODAK LENS CELLS
POLAROID LENS CELLS
LEICA View and Rangefinder caps
OTHER sizes available on request
PLEASE state size or purpose required when ordering.
Popular sizes: 7/16, 1/2, 21/32, 3/4, 1-1/8, 1-1/4, 1-1/2, 1-3/4

ServiShops Product

National Camera Repair School
Englewood, Colo., U.S.A.



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Students Speak (con't)
charts certainly help one to become thoroughly familiar with the operations of these shutters.

Virgil Marquart
Fort Wayne, Indiana

Although I have only partially completed your course to date, I have been able to repair most any still camera that has come my way - many thanks to your fine course.

Paul Ruminsky
Lorain, Ohio

So far this course has not cost me a red nickel -- it is paying for itself.

Robert McDermott
Coatsville, Pa.

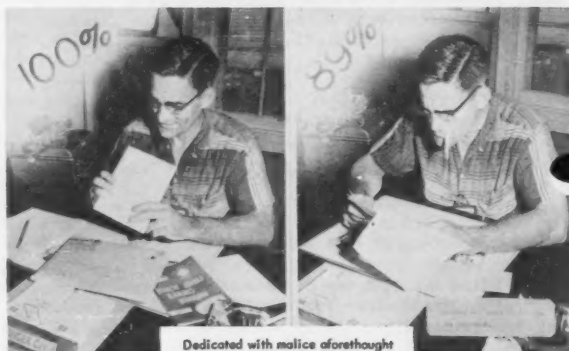
Thanks for your telegram of the twenty third, today I shipped by Express prepaid (my pride and joy) my Motion Analyzer. I packed it in double cardboard boxes with packing both between the boxes and inside the inner box.

I hope the damage is not great and that I will have my instrument back in the shortest possible time. Have you ever tried to wash your face with only one hand? That is the way I feel when my shop does not have "Millie" in it.

E. Burton Shofner
Hanford, California

I am very much impressed with the first lessons -- the course appears to be a real challenge and all I could ask for.

Ross P. Faulkner
Oklahoma City, Okla.



Dedicated with malice aforethought
To: Bud Fowler
From: Thomas D. Harger

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6" each of sizes .040 and .050	
BELLOWS KITS	
14 Bellows in popular US sizes	\$17.50
10 Bellows of 616, 621, 116, 120 and VP	\$11.50

*When TRANS-RAK is not ordered, these KITS include a P2-1 plastic tray for storing.

NCRS Lesson Binders



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Delphine (con't)

but we can all be thankful that it wasn't fatal. Mrs. McHenry is still in Florida, hospitalized, and we're all hoping she will soon be out and back home again. Bill is back at his studies and receiving wonderful grades. Good luck, Bill

Dota Brown is doing great in his camera shop in Encinitas, California. We always enjoy hearing about Dota as he is also a ventriloquist, comedian, and magician. He really keeps us bouncing here at NCRS. When he enrolled we didn't know at first what we were in for, as there was never a dull moment. He wrote for the first couple of months every day with some kind of joke or prank behind it. We loved every minute of it but now that he is busy with his new business and does find time to write, it is only a short line. Dota -- if you're reading this I want you to know that I have that feeling of being neglected. Ha. Well -- tell your nice wife hello for me and why don't you sit down and write a line or maybe two (if you can find the time.)

How's the lesson coming there in Oklahoma, (Cousin) Edwin? I'm still looking for that next lesson. Why don't you surprise me and send it in. Your grades are fine - keep up the good work. You told me not to give up on you and I won't. OK? If you're really having any trouble with your studies, please don't hesitate to holler for HELP!

I'll close this column for now, students, for time is running out. Hope the Flu Bug has not caught up with all of you. I know it has reached a few because you have written in to me explaining the delay in your lessons. Thanks for being so thoughtful. I really appreciate it when you let me know there is a delay in your lessons due to unforeseen causes. That way I don't hound you to death to send in a lesson.

Thanks for letting me take this opportunity to yak at you and may God bless you and take care of you always.

Yours truly,
Delphine



Tie camera repair in with "May Is Picture Month". The Master Photo Dealers and Finishers Association (MPDFA) is having a drive to promote a "May is Picture Month" idea. Such a promotion can aid and improve all photo business, including camera repair work. See if you can't tie in your services with that of your local photo dealer, perhaps with free clean-ups and other preparations for that special season. You'll be hearing more about this promotion and how you can coordinate your own efforts with it, later.





I am really amazed at how much repair work I can now handle. It is not only very profitable but most interesting.

Harold Adams
Rockport, Massachusetts

I have just started lesson 9 and to date I feel that I have a completely new interest in photography in general.

I have been working in the photo business since 1937 which is now twenty years and I have worked with some very experienced men, some of them were considered tops in their field.

I had occasion to discuss a few simple principles of photographic optics with one of these men and I was amazed just how little he really knew about the subject.

I also believe he was equally surprised to find out that I was pretty thoroughly versed on the subject. He has since come to ask me several things on various phases of this work.

As described in an earlier text the customer has confidence in a repairman who can talk intelligently on a subject in point.

I feel that this self gained confidence has been more than enough reward for the little time and effort I have put into my lessons.

Michael V. Sciallo
Brigantine, N. J.

The lesson on Body Repairs is probably being graded now, and in a way I'm sorry I sent it in when I did because I did it hurriedly and with not too much thought behind it. I would like to let you know that it was not lack of interest or too many other activities -- it was simply that work for camera stores is piling up.

A Mr. G- called me while enroute to another part of Florida. Unfortunately I was at work on the base and didn't get a chance to talk to him. He talked to my wife, tho, and seemed to be very interested in my shop and the camera repair business. Thank you for directing him to me. I'll be glad to meet any
(Con't Page 19)

RECENT CONSIGNMENTS ACCEPTED ON SERVISHOPS ANALYZERS

There are never any trade-ins accepted on purchases of ServiShops Motion Analyzers. However, it has been NCRS Supply policy to take instruments on consignment. That's good news for those of you who would like to make an especially good "buy" on a used test instrument.

Is there some particular machine in which you are interested? Place a request. When an instrument of the type you want comes in, you'll be told. You can even name the price you'd like to pay, if you wish. The plan makes available shutter testers, synchronization testers, contact testers and others by such manufacturers as Aerotronic, Heiland, Hickok, and NCRS.



At the time of publication one good Gardner SID Synchrotimer in excellent condition is available for immediate delivery. The synchrotimer can be used to test shutter speeds (both between-the-lens and focal-plane) and synchronization, with a range of 1-1/4 seconds. This is the finest light-pulse type instrument available. It is easily calibrated in the field and requires but brief set-up and operating time. Best of all, you can buy this used instrument for just a little over half price -- only \$195.00!

245

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BOOST YOUR EARNINGS IN LESS TIME

Because your Analyzer requires fewer adjustments to make a test, you'll save time and steps on every test you make. You'll actually need up to 50% less time than you'd use on even a single, high cost special purpose instrument. You can go from test to test with no complications - and without worry about calibration or accuracy! Savings of time and an increase in accuracy guarantee you higher earnings. The most expensive thing you own is your own time! Make a shutter or synch adjustment with half the testing time and you double your earning power! Your ServiShops Analyzer means more money for you!

NATIONAL CAMERA REPAIR SCHOOL

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Bellows (con't)

other people you know who might come this way.

The lesson on the Rollie camera will be on it's way in the next day or two. Have already repaired 8 Rollies and 3 Ikoflex with excellent results on all. The lesson cleared up many points for me.

William S. Cummins
Pensacola, Florida

I would like to take this opportunity to express my warm regards for the personnel of your organization - all of you have been most kind. I have many kind things to say about your school wherever I may go & it certainly has been a pleasure to come in contact with such a fine group.

Paul Ruminsky
Lorain, Ohio

I would like to say how much I appreciate the interest Miss Delphine King is taking in my lesson problems. She is a valuable asset to the School.

As I progress, the lessons are becoming more interesting.

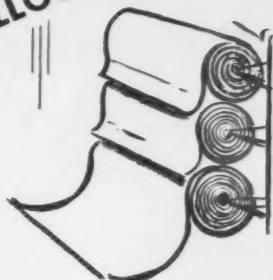
I received the latest Camera Craftsman and enjoy reading about the repairmen from all parts of the world.

Ralph J. Hamilton
Jackson, Michigan

The lessons and methods seem to be very well designed -- especially to keep the student developing skill and initiative.

William C. McHenry
Bethesda, Maryland


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Englewood, Colorado

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